

Claims

1. A wireless zone-based communication system (200, 300) comprising a plurality of zones (150 to 154) being served with short data capabilities by a plurality of short data routers (220 to 224), wherein the plurality of short data routers (220 to 224) are operably coupled to a plurality of zone controllers, the wireless zone-based communication system (200, 300) being characterised by:
 - 10 at least one zone controller (210) of said plurality of zone controllers being operable to transmit a multicast message (240) to a plurality of said short data routers (220 to 224) such that at least one short data router (220) of the plurality of said short data routers (220 to 224) is operable to generate or update information relating to mobile communication units (370 to 374) that are operational in the one or more zones that the short data router (220) serves.
 - 20 2. The wireless zone-based communication system (200, 300) according to Claim 1, wherein the plurality of said short data routers (220 to 224) are operable to generate or update mobility information relating to said mobile communication units (370 to 374).
 - 25 3. The wireless zone-based communication system (200, 300) according to claim 1 or claim 2, wherein the plurality of said short data routers (220 to 224) are operable to generate or update information relating to said mobile communication units that are operational in the one or more zones that the plurality of said short

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data routers (220 to 224) serve as a primary and/or secondary (standby) and/or load sharing short data routers.

5 4. The wireless zone-based communication system (200, 300) according to any one of the preceding claims, wherein the at least one zone controller (210) is operable to transmit a multicast message (240) to a multicast group address identifying a group joined by
10 said at least one short data router.

5. The wireless zone-based communication system (200, 300) according to any one of the preceding claims, wherein the at least one short data router is operable to
15 utilise a location query mechanism to minimise inaccuracies in the multicast message.

6. The wireless zone-based communication system (200, 300) according to claim 5, wherein the location query
20 mechanism includes said at least one short data router being operable to query directly a zone controller's home location register and/or visitor location register to obtain mobile unit mobility information when inaccurate mobility information has been received in the multicast
25 message.

7. The wireless zone-based communication system (200, 300) according to any one preceding claim, wherein said
30 multicast message comprises an Internet Protocol (IP) mobility message to maintain synchronised IP address

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records of mobile communication units operating in the wireless zone-based communication system (200, 300).

8. The wireless zone-based communication system (200,
5 300) according to any one of the preceding claims,
wherein said communication system is a trunked radio
system.

9. The wireless zone-based communication system (200,
10 300) according to claim 8, wherein said communication
system is operable in accordance with TETRA standard
procedures.

10. A method for improving redundancy provision in a
15 wireless zone-based communication system (200, 300)
comprising a plurality of zones being served with short
data capabilities by a plurality of short data routers
(220 to 224), the method being characterised by the steps
of:

20 transmitting a multicast message from a zone
controller to a plurality of short data routers;
receiving said multicast message at one of said
plurality of short data routers; and
generating, by said short data router, one or more
25 mobility databases for mobile units that are operational
in the one or more zones served by said short data
router.

11. The method according to claim 10, wherein the step
30 of generating one or more mobility databases is performed
by said short data router serving as a primary and/or

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secondary (standby) and/or load sharing short data router.

12. The method for improving redundancy provision in a
5 wireless zone-based communication system according to
claim 10 or claim 11, wherein the step of transmitting
includes transmitting a multicast message to a multicast
group address identifying a group joined by said at least
one short data router.

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13. A zone controller adapted to transmit a multicast
message to a plurality of said short data routers in a
communication system according to any one of claims 1 to
9 or the method according to any one of claims 10 to 12.

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14. A short data router adapted to receive a multicast
message from a zone controller in a communication system
according to any one of claims 1 to 9 or a method
according to any one of claims 10 to 12.

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